



Madhav Institute of Technology & Science, Gwalior
Gola Ka Mandir Gwalior-474005(M.P) Contact No. 0751-2409354

Date:24/09/2020

INVITATION FOR QUOTATION (2ND CALL)

The **Madhav Institute of Technology & Science, Gwalior** invites sealed Quotation from eligible suppliers for supply of items for various Laboratories. Tender cost is Rs.1000/- per tender. The last date for submission of quotation is 14:00 hours on 07/10/2020. For details, please visit the Institute website www.mitsgwalior.in.

Director

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Electrical Engineering Department

TENDER DOCUMENT (2nd Call)

For

Smart Grid Simulator & Renewable Energy Lab

(2020-2021)



General Terms and Conditions

(The vendors who have sent their offers in the first call, need not to apply again. There same offer will be considered.)

#Validity of rates must be for minimum 8 months.

#Warranty period 12 Months (free of cost).

#Performance security 10% will be deducted at the time of payment, with will be released at the end of warranty period on successful working of the equipment's.

#Supply will be done within 30 days from the date of order.

#In case of unjustified delay, liquidity damages will be deducted @0.01% per day.

#Tender cost is Rs.1000/- which is to be deposited along with tender in the form of DD in favor of the Director, MITS Gwalior.

Vendor must give offer for all items in the package. Partial offers will be rejected.

The evaluation/award of contract will be done on the basis of total package cost (not on the basis of individual items).

1. Quotation,
 - 1.1 The contract shall be for the full quantity as described above.
 - 1.2 Corrections, if any, shall be made by crossing out, initialing, dating and re writing.
 - 1.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.
 - 1.4 Applicable taxes shall be quoted separately for all items.
 - 1.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.
 - 1.6 The Prices should be quoted in Indian Rupees only.
2. Each bidder shall submit only one quotation.
3. Evaluation of Quotations,

The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

 - 3.1 are properly signed and
 - 3.2 Confirm to the terms and conditions, and specifications.
4. The Quotations would be evaluated for all items together.
5. Award of contract:

The Purchaser will award the contract to the bidder whose quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

 - 5.1 Notwithstanding the above, the Purchaser reserves the right to accept or reject any quotations and to cancel the bidding process and reject all quotations at any time prior to the award of contract.
 - 5.2 The bidder whose bid is accepted will be notified of the award of contract by the Purchaser prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.
6. Payment shall be made in Indian Rupees as follows:

Delivery, Installation, training and Satisfactory Acceptance - 90% of total cost.
The performance security (10% of basic cost of order value) will have to be deducted from the payable amount and will be return at the end of warranty period on successful working of the equipment.

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7. You are requested to provide your offer latest by **14:00** hours on **07/10/2020**. **The Technical bid of offers will be opened at 14:30 on 07/10/2020. The commercial offer of technically eligible bidders will be opened at 15:00PM on 07/10/2020**
8. All supplied items are under warranty of 12 months with support and maintenance (free of cost) from the date of successful acceptance of items.
9. Information brochures/ Product catalogue, if any must be accompanied with the quotation clearly indicating the model quoted for.
10. The Vendors must enclose OEM certificate/authorized channel partner /authorized distributor/authorized dealer.
11. The vendor must submit the GST certificate and ITR of last three years.
12. Vendor must produce a certificate with his seal and sign on his letter head that he accept all the terms and condition in the invitation letter.
13. If items are not supplied within time line, penaling may be imposed on the supplier.
14. Training Clause: Seller has to arrange the training with course material (if required) at MITS, Gwalior without any extra payment
15. Testing/Installation Clause: Seller has to installed the equipment's successfully at MITS, Gwalior without any extra payment
16. Sealed quotation to be submitted/ delivered at the address mentioned below,
Director, Madhav Institute of Technology & Science,
Gola Ka Mandir, Residency Road Gwalior-474005(M.P) India
17. **Please Mention the following things on the top of the envelop**
 - i. **Package Name**
 - ii. **Last date of Submission**
18. The outer sealed envelope must specify the **PACKAGE NAME**. There must be two sealed envelope inside it. The first sealed envelope must be marked as **ENVELOPE – 1**. It must contain following documents:
 - GST certificate
 - ITR of last three years
 - OEM certificate/authorized channel partner /authorized distributor/authorized dealer certificate
 - Product catalogue
 - Work experience in the same domain if any
 - **EMD (Rs 40,000/-) in the form of DD in favour of the Director, MITS Gwalior**

The second sealed envelope must **only contain the financial bid** (marked as **ENVELOPE – 2**). The second envelope will only be opened when the committee finds the offer as technically suitable as per our terms and conditions.

19. The Institute reserve the right to cancel the tender without any notice.

DIRECTOR

It is certified that, the (Firm name), agree all the terms and conditions of the tender. We know that in case of any deviation from the terms and conditions will cancel our offer.

Vendor Name, Seal and Sign with Date

Scope of Work

Objective -

It is proposed to develop a fully equipped state of Smart Grid Simulator & Renewable Energy Lab at MITS Gwalior. The Laboratory must have a Smart Grid Simulation Software, Smart Grid simulator with Real Time Data Acquisition system and power measurement unit hardware & Renewable energy & Smart Grid Hardware Simulator setup with all associated instrumentation facility, static and dynamic arrangements of renewable energy setups.

The work basically consists of following components:-

1. Smart Grid Simulation Software.(Annexure-1)
 - a. PQ Analysis
 - b. Phasor measurement unit
2. Smart Grid simulator with Real Time Data Acquisition system and power measurement unit hardware. (Annexure-1)
3. Renewable energy & Smart Grid Hardware Simulator (Annexure-1)
 - a. Solar Power Generation System(2KW) Grid-tie Inverter with charge controller, Wind Turbine with Charge Controller (1 KW)
 - b. Battery Bank 12V, 100Ah Rating

TERMS AND CONDITIONS:

1. The Tenderer should supply following with the tender, without which the offer is liable to be rejected.
 - Profile of the company.(Must be ISO certified)
 - List of customers
 - Detailed Project Report (DPR) for the complete work, covering all aspects from point (2-7) of the work.
 - Name/Make of the manufacturer of each as per Annexure-1.

Note : Before deciding about the award of contract and/or during the contract period Director MITS Gwalior reserves the right to inspect/depute his representative to inspect, the factory/workshop of the suppliers/manufactures and institutions where the tenderer had carried out work in the past. During the inspection, if it is observed that the work carried/being carried out is not up to the mark, then Director MITS Gwalior reserves the right of not awarding/ cancellation of the contract.

2. All additional required Items, cables, wires, switches, working benches, sensors, switches etc. should be of standard make.
3. Damaged, defective or substandard material will not be accepted under any circumstances.

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4. Catalogue for experiments, technical literature, wherever necessary should be supplied along with tender document.
5. In the last three year, the bidders should have supplied the product/components/equipment to the minimum two Government or Autonomous organization/Institution. The copy of the proof is to be attached.
6. Average annual turnover for the last 3 year should at least 100 lakhs.
7. The tenderer should produce audit statement of accounts for the last 3 years.

The tenderer shall produce documentary evidence on the above said items (4-7) as proof of meeting the above qualifying requirements and the Tenderer will have to quote for all the Items given in Annexure-1, otherwise the Tender will not be considered.

➤ **SPECIAL TERMS AND CONDITIONS**

➤ **TRAINING: -**

- Vender shall provide time to time required Training Program on Smart Grid Simulation Software, Smart Grid simulator with Real Time Data Acquisition system and power measurement unit hardware & Renewable energy & Smart Grid Hardware Simulator of supplied items at our Institution.

➤ **AFTER SALES SERVICE: -**

- Vendor should provide at least 24 months after sales service from the date of commissioning.

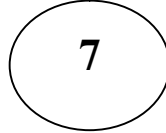
Smart Grid Simulator & Renewable Energy Lab				
Item No.	Description	Qty.	Unit Price	Total Price
Software				
1	<p>Smart Grid Simulation Software (Academic Site License – LabVIEW Research Only (1User) with Multisim (1user) PQ Analysis, Measurement Protection for 50 Hz/60 Hz Systems, Measure power quality and energy features to IEC, EN, and IEEE standards Harmonics (IEC 61000-4-7) and Flicker (IEC 61000-4-15) Phasor measurement unit (C37.118) [Professional Edition Only] Sag/swell/interruption with standard or custom levels (IEC 61000-4-30) Rapid voltage change with standard or custom levels (IEC 61000-4-30) Compatibility with the COMTRADE (IEEE 37.111) file format</p>	1		
Hardware				
2	<p>Smart Grid simulator with Real Time Data Acquisition system and power measurement unit hardware 667 MHz Dual-Core CPU, 512 MB Extended Temperature, 8-Slot CompactRIO Controller, ±10 V, 250 kS/s, 16-Bit, 32-Channel, 60 VDCe. GPS C Series Synchronization Module—To provide accurate time synchronization for CompactRIO systems. 300 Vrms, 50 kS/s/ch, 24- Bit, Simultaneous Input, 3-Channel C Series Voltage Input Module—for differential analog input. 50 kS/s/ch, 5 Arms, 24-Bit, 4 Channel C Series Current Input Module—To provide high-accuracy measurements to meet the demands.</p>	1		

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3	Renewable energy & Smart Grid Hardware Simulator setup Solar Power Generation System (2kW) Grid-tie Inverter with charge controller, Wind Turbine with Charge Controller (1 kW), Battery Bank 12V, 100Ah Rating Quantity – 8 Nos. Smart House- Operates on conventional AC power supply Control switches for electrical plug points Automated master control using software Experimental Kit, DC/AC Breakup Box, Weather station- Measures the actual external weather station parameters, Analysis of variation in load with climate. Software-Smart Grid Energy Monitoring, Solar Energy Monitoring, Wind Energy Monitoring, Renewable Energy Monitoring, Weather Monitoring	1		
	Total			
	GST and other taxes as applicable			
	Grand-Total			

Vender must specify the make and model of each item and provide the list of experiments, performed using various Setups.

Tender cost: Rs.1000/-



TENDER DOCUMENT (2nd call)

For

Performance Analysis of Thermal Comfort and Sustainability Analysis

of Heritage Buildings

(2020-2021)



General Terms and Conditions

#Validity of rates must be for minimum 8 months.

#Warranty period 12 Months (free of cost).

#Performance security 10% will be deducted at the time of payment, which will be released at the end of warranty period on successful working of the equipments.

#Supply will be done within 30 days from the date of order.

#In case of unjustified delay, liquidity damages will be deducted @0.01% per day.

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 - ii. **Last date of Submission**

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- GST certificate
- ITR of last three years
- OEM certificate/authorized channel partner /authorized distributor/authorized dealer certificate
- Product catalogue
- Work experience in the same domain if any
- **EMD (Rs12,000) in the form of DD in favor of the Director, MITS Gwalior.**

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19. The Institute reserves the right to cancel the tender without any notice.

DIRECTOR

It is certified that, the (Firm name), agree all the terms and conditions of the tender. We know that in case of any deviation from the terms and conditions our offer will be cancelled.

Vendor Name, Seal and Sign with Date

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INVITATION FOR QUOTATION

Name of the Department: Architecture/Town Planning

Name of the Project/Package: Performance Analysis of Thermal Comfort and Sustainability Analysis of Heritage Buildings

S N	Item name*	Approx Qty	Make	Model	Unit Rate without GST (in Lakhs)	Total Cost without GST (in Lakhs)	GST %	Total Cost with GST
1.	Solar Combo	01						
2.	Solar AC	01						
3.	Flat Plate Collector	04						
4.	Data Logger (12 Channel)	01						
5.	Temperature Measuring Instrument	02						
6.	Hygrometer	01						
7.	Luxmeter	02						
8.	Thermal Image Sensor	01						
GRAND TOTAL WITHOUT GST								
GRAND TOTAL WITH GST								

Price must be inclusive of supply, installation, commissioning and training.

Detailed specifications are attached.

It is certified that, the (Firm name), agrees to all the terms and conditions of the tender. We know that in case of any deviation from the terms and conditions and specifications, our offer will be cancelled.

Vendor Seal and Sign with Date

Madhav Institute of Technology & Science, Gwalior – 474005

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Name of the Department: Architecture/Town Planning

Name of the Project/Package: Performance Analysis of Thermal Comfort and Sustainability Analysis of Heritage Buildings

Detailed Specification

S.No	Item Name	Detailed Specifications
01.	Solar Combo	<ul style="list-style-type: none">• Capacity:150 Ah• Usable current from grid:24 A• Wattage:270 W• System Power:2 Kw
02.	Solar AC	<ul style="list-style-type: none">• Configuration: 1 Tonne (workable on PV pannel)• Cooling Capacity: 3500 W• Air circulation: 500 m3/h
03.	Flat Plate Collector	<ul style="list-style-type: none">• Conversion Factor: $\geq 75\%$• Absorber Coating: TiNOx, high selective• Casing: Aluminium• Insulation: Rock Wool, $\geq 50\text{mm}$• Collector Glazing: solar safety glass 3.2mm• Permissible Collector Tilt: $25^\circ - 65^\circ$• Surface area: 2 m^2
04.	Data Logger (12 Channel)	<ul style="list-style-type: none">• 12 channel, 64 bit, 1 sec to one week sample rate, USB storage• Sensor Accuracy- $\pm 2\%$
05.	Temperature Measuring Instrument	<ul style="list-style-type: none">• Type K Thermocouple (Nickel-Chromium / Nickel-Alumel)• Temperature Range - Thermocouple grade wire: -270° to 1260°C Extension wire: 0° to 200°C, Length: 2-3 m• Accuracy: $\pm 2.2\text{C}$ or $\pm 0.75\%$
06.	Hygrometer	<ul style="list-style-type: none">• Hygrometer with dew point calculation,• Accuracy: $\pm 2\%$• Hygrometer with data logger
07.	Luxmeter	<ul style="list-style-type: none">• Display:3 1/2 Digit, 13mm LCD• Resolution: 0-2000(1 Lux), 0-20000(10 Lux) & 0-50000(100 Lux), (3 Ranges)• Accuracy: $\pm 5\%$• Range:0-2000, 0-20000 & 0-50000 Lux (3 Ranges)• Sampling Time:0.4 Times / Seconds

08	Thermal Image Sensor	<ul style="list-style-type: none"> • Temperature Measurement Range: -20°C to 450°C • Basic precision: $\pm 2\%$ or 2°C • Distance coefficient ratio: 24:01:00 • Measurement resolution: 0.1°C/°F • Response time: 150ms • Field of View: 35°x26° • Thermal imaging sensitivity: 150mk • Display resolution: 726800 pixel (320*240) • Battery: Built-in rechargeable battery • Continuous battery life: 2~3 hour • Memory card: built-in 3G(20K images)
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It is certified that, the (Firm name), the technical specifications are exactly specified in the tender. We know that in case of any deviation, our offer will be cancelled at any stage.

Vendor Seal and Sign with Date

Tender cost: Rs.1000/-

8

TENDER DOCUMENT (2nd call)

For
**Software for Investigation of Microgrid Operational Challenges for rural areas
Due to Renewable Energy Resources
(2020-2021)**



General Terms and Conditions

#Validity of rates must be for minimum 8 months.

#Warranty period 12 Months (free of cost).

#Performance security 10% will be deducted at the time of payment, with will be released at the end of warranty period on successful working of the equipments.

#Supply will be done within 30 days from the date of order.

#In case of unjustified delay, liquidity damages will be deducted @0.01% per day.

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1.3 All duties and other levies payable by the supplier under the contract shall be included in the unit price.

1.4 Applicable taxes shall be quoted separately for all items.

1.5 The prices quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.

1.6 The Prices should be quoted in Indian Rupees only.

2. Each bidder shall submit only one quotation.

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The Purchaser will evaluate and compare the quotations determined to be substantially responsive i.e. which

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 - Product catalogue
 - Work experience in the same domain if any
 - **EMD (Rs3,000) in the form of DD in favour of the Director, MITS Gwalior.**The second sealed envelope must **only contain the financial bid** (marked as **ENVELOPE – 2**). The second envelope will only be opened when the committee finds the offer as technically suitable as per our terms and conditions.
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INVITATION FOR QUOTATION

Name of the Department: Electrical Engg

Name of the Project/Package: **Software for Investigation of Microgrid Operational Challenges for rural areas**

Due to Renewable Energy Resources

S N	Item name*	Qty	Make	Model	Unit Rate without GST	Total Cost without GST	GST %	Total Cost with GST
1	Homer pro Micro grid software	01						
2	PV SVST premium software	01						
GRAND TOTAL WITHOUT GST								
GRAND TOTAL WITH GST								

Price must be inclusive of supply, installation, commissioning and training.

Detailed specifications are attached.

It is certified that, the (Firm name), agree all the terms and conditions of the tender. We know that in case of any deviation from the terms and conditions will cancel our offer.

Vendor Seal and Sign with Date

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Name of the Department: Electrical Engg

Name of the Project/Package: **Software for Investigation of Microgrid Operational Challenges for rural areas Due to Renewable Energy Resources**

Detail Specification

S.No.	Item Name	Detailed Specifications
01	Homer pro Micro grid software	Biomass, Hydro, Combined Heat & Power, Advanced Load, Advanced Grid, Hydrogen, Advanced Storage, Multi-Year, MATLAB Link
02	PV SVST premium software	<p>Meteonorm included Direct search for a location using Google Maps; Full Meteonorm interpolation program for any location on earth</p> <p>Detailed electrical shading losses Defines the position of all modules of the system in the 3D field; Computes the electrical circuit at the input of each inverter; Outputs: “Irradiance shading loss” and “electrical shading loss”</p> <p>Improved shading calculations Direct shading calculation during the simulation (avoids interpolation uncertainties); Big plants: optimized calculation of the shading factor; Plants following the terrain (Helios 3D): orientation analysis and management</p> <p>New simulation process Improved project management: parameter access, copy, templates; New organization of the losses; New losses like LID, unavailability, and light-soaking gain for CIS</p> <p>PV modules and model management Sandia model implementation and comparison with PVsyst model; Tools for parameter optimization (low-light, I/V curve); New parameters (tolerance, IAM profile, Vmax UL)</p> <p>Inverters New parameters (Transfo, CEC efficiency); Multi-MPPT with asymmetric inputs Improvement of choice by manufacturer</p> <p>Capable of Batch model for parametric studies</p>

It is certified that, the (Firm name), the technical specifications are exactly specified in the tender. We know that in case of any deviation, our offer will be cancelled at any stage.

Vendor Seal and Sign with Date